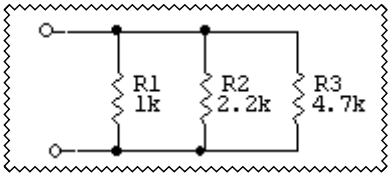

Fig. 4

1. Assemble the circuit in Fig. 4.

2. Calculate the total resistance. R_{eq} = _____

3. Measure the total resistance with a ohmmeter. R_{eq} = _____

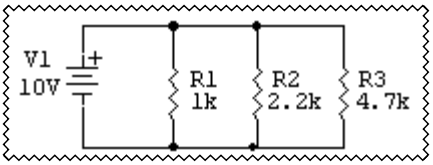

Fig. 5

4. Why does the total resistance decrease?

<u>Once again assemble the circuit in Fig. 5 but **do not** apply the power.</u>

5. Calculate the total current. I_{total} = _____

6. Calculate the current in each branch.

I_{R1} = _____ I_{R2} = _____ I_{R3} = _____

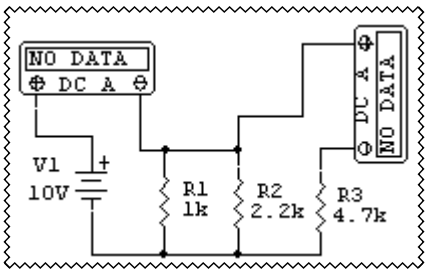

Fig. 6

<u>Connect the ammeter as suggested in Fig.6.</u>

7. Apply 10V to the circuit in Fig. 5.

8. Measure total current in the circuit. I_{total} = _____

9. Measure the current in each branch of the circuit.

I_{R1} = _____ I_{R2} = _____ I_{R3} = _____

10. Is the total current equal to the sum of the individual branch currents? How close are the calculated or theoretical values to the measured values?